Date: February, 2004

Guidelines for Estimating
Alfalfa Hay Production Costs

This guide is designed to provide planning information and a format for calculating the costs of production in a forage enteprise. The production costs included in this budget were not obtained from a survey of producers, nor do they necessarily represent the average cost of production for alfalfa hay in Manitoba.

The assumptions on which the costs were calculated are clearly defined in the supporting pages. They were developed by using a combination of recommended practices and methods followed by many producers.

When interpreting the costs contained in this budget for an individual situation, adjustments may be necessary. Each assumption must be examined and adjustments made where necessary.

The budget can be useful for comparative purposes. Comparison of costs can be made with other similar farms; comparing farm costs over time; or comparing actual results with projections made earlier.

Disclaimer: This budget is only a guide and is not intended as an in depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user. If you require assistance with developing your individual budget, please contact your local Manitoba Agriculture, Food and Rural Initiatives office.

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Alfalfa Hay Cost of Production Summary - February, 2004

	Establishment	Annual	Annual	Your Cost
A. Operating Costs	**$/acre**	**$/acre**	**$/ton**	
1.00 Establishment Cost [1]	n/a	$20.61	$8.96	
1.01 Seed	$25.00	n/a	n/a	
1.02 Fertilizer	$18.20	$18.20	$7.91	
1.03 Herbicide	$9.00	$0.00	$0.00	
1.04 Field Fuel Costs	$6.96	$9.46	$4.11	
1.05 Moving Costs	$2.50	$11.50	$5.00	
1.06 Repairs & Maintenance	$1.50	$3.36	$1.46	
1.07 Crop Insurance	$1.36	$5.88	$2.56	
1.08 Land Taxes	$7.50	$7.50	$3.26	
1.09 Miscellaneous	$6.00	$6.00	$2.61	
Sub-total Operating Cost	$78.02	$82.51	$35.87	
1.10 Interest on Operating	$2.15	$2.27	$0.99	
Total Operating Costs	**$80.17**	**$84.78**	**$36.86**	
B. Fixed Costs				
2.0 Depreciation				
2.01 Machinery	$14.50	$14.50	$6.30	
2.02 Storage	$1.17	$1.17	$0.51	
3.0 Investment				
3.01 Land	$20.00	$20.00	$8.70	
3.02 Machinery	$3.19	$3.19	$1.39	
3.03 Storage	$0.47	$0.47	$0.20	
Total Fixed Costs	**$39.33**	**$39.33**	**$17.10**	
Total Operating and Fixed	**$119.50**	**$124.11**	**$53.96**	
C. Labour	**$4.16**	**$6.26**	**$2.72**	
Total Cost of Production	**$123.66**	**$130.37**	**$56.68**	

1. The cost of establishing the crop, $123.66/acre, was spread over 6 years at $20.61/acre/year.

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Assumptions

1. Assumed a total of 300 acres of alfalfa hay at a market value of $500 per acre.

2. Assumed 6 years of production with an average yield of 2.3 tons per acre.

3. Machinery and equipment for the alfalfa hay enterprise included tractors, sprayer, baler, mower conditioner and storage facilities which were valued at $50,500 in total.

4. The budget is based on a round bale production system with outside storage.

Alfalfa Grass Hay Cost of Production Worksheet

A. Operating Costs				**Your Cost**
1.01 Seed				
Establish		10.0	alfalfa grass mix lbs/acre	
	x	$2.50	$/lb	
	+	$0.00	$/acre custom seeding	
	=	**$25.00**	**$/acre**	
1.02 Fertilizer				
Nitrogen				
Establish		0.0	lbs/acre seeding year	
	x	$0.33	cost/lb	
	=	$0.00	$/acre	
Annual		0.0	lbs/acre cropping years	
	x	$0.33	cost/lb	
	=	$0.00	$/acre	
P_2O_5				
Establish		35	lbs/acre seeding year	
	x	$0.28	cost/lb	
	=	$9.80	$/acre	
Annual		35	lbs/acre cropping years	
	x	$0.28	cost/lb	
	=	$9.80	$/acre	

K_2O

Establish		30	lbs/acre seeding year	
	x	$0.150	cost/lb	
	=	$4.50	$/acre	
Annual		30	lbs/acre cropping years	
	x	$0.150	cost/lb	
	=	$4.50	$/acre	

Sulfur

Establish		15	lbs sulfur seeding year	
	x	$0.26	cost/lb	
	=	$3.90	$/acre	
Annual		15	lbs/acre cropping years	
	x	$0.26	cost/lb	
	=	$3.90	$/acre	

Establish Cost	=	**$18.20**	**$/acre**	
Annual Cost	=	**$18.20**	**$/acre**	

1.03 Herbicide

Establish	**$9.00**	**$/acre**
Annual	**$0.00**	**$/acre**

1.04 Field Fuel Costs

Establish Field Operations	**Times Over**	**Width feet**	**Speed mph**	**Fuel $/ac.**
Cultivate (fall)	1	40	5.0	0.99
Cultivate	1	40	5.0	0.99
Seed/fertilize	1	40	5.0	0.99
Burn Off	1	60	6.0	0.32
Swath	1	16	5.5	2.26
Bale	1	16	5.0	1.42
Total	6			**$6.96**

Annual Field Operations				
Fertilize	1	40	7.0	0.41
Swath	2	16	4.5	5.51
Bale	2	16	4.0	3.54
Total	5			**$9.46**

1.05 Moving Costs

Pick up, load, unload & stack

Establish		0.5	tons/acre
	x	2,000	lbs/ton
	÷	1,200	bale weight (lbs)
	x	$3.00	$/bale
	=	**$2.50**	**$ /acre**
Annual		2.3	tons/acre
	x	2000	lbs/ton
	÷	1,200	bale weight (lbs)
	x	$3.00	$/bale
	=	**$11.50**	**$ /acre**

1.06 Repairs & Maintenance

Establish*		2.0%	percentage rate
	x	$75	investment/acre
	=	**$1.50**	**$ /acre**

*Investment to establish crop includes tractors, sprayer & cultivator.

Annual**		2.0%	percentage rate
	x	$168	investment/acre
	=	**$3.36**	**$ /acre**

**Investment in annual cropping includes tractors, mower, baler, truck & trailer & storage.

1.07 Crop Insurance (Forage Designated Area 12)

Establish		$40	$ coverage/acre
	=	**$1.36**	**$/acre premium**
Annual		1.72	LTA tons /acre
		80.0%	Coverage level
		$106.17	$ coverage/acre
	=	**$5.88**	**$/acre premium**

1.08 Land Taxes

	=	**$7.50**	**$/acre**

1.09 Miscellaneous

		$5.00	$/acre
	+	$1.00	twine cost/acre
	=	**$6.00**	**$/acre**

1.10 Interest on operating costs

Establish		$78.02	subtotal operating	_____
	÷	2	average	_____
	x	5.5%	interest rate	_____
	=	**$2.15**	**$/acre**	_____
Annual		$82.51	subtotal operating	_____
	÷	2	average	_____
	x	5.5%	interest rate	_____
	=	**$2.27**	**$/acre**	_____

Capital Costs

Machinery					
Tractor	175 hp	$150,000	5%	$7,500	
Tractor	100 hp	$85,000	10%	$8,500	
Cultivator		$30,000	5%	$1,500	
Sprayer/fertilizer		$100,000	5%	$5,000	
Truck & Trailer		$0	40%	$0	
Round Baler		$35,000	35%	$12,250	
Mower Conditioner		$25,000	35%	$8,750	
Total Machinery		$425,000		$43,500	
Storage		$7,000	100%	$7,000	
Total Investment		$432,000		$50,500	
Land Investment					
Land cost /acre		$500			
Total Acres		300			
Total Land Cost		$150,000	100%	$150,000	
Total Capital Investment		$582,000		$200,500	

B. Fixed Costs

2. Depreciation

2.01 Machinery

	$43,500	machinery investment	
-	$0	salvage value	
÷	10	years useful life	
÷	300	acres	
=	**$14.50**	**$/acre**	

2.02 Storage

	$7,000	storage investment	
-	$0	salvage value	
÷	20	years useful life	
÷	300	acres	
=	**$1.17**	**$/acre**	

3. Investment

3.01 Land

	$500	cost/acre	
x	4.0%	investment rate	
=	**$20.00**	**$/acre**	

3.02 Machinery

$43,500	machinery investment	
+ $4,350	salvage value	
÷ 2	average	
÷ 300	acres	
x 4.0%	investment rate	
= **$3.19**	**$/acre**	

3.03 Storage

$7,000	storage investment	
+ $0	salvage value	
÷ 2	average	
÷ 300	acres	
x 4.0%	investment rate	
= **$0.47**	**$/acre**	

C. Labour Cost

Establish	0.42	hours/acre
x	$10.00	rate/hour
=	**$4.16**	**$/acre**
Annual	0.63	hours/acre
x	$10.00	rate/hour
=	**$6.26**	**$/acre**

For more information contact your local Manitoba Agriculture, Food and Rural Initiatives office.

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